

What is claimed is:

1. A network switch for switching transaction requests among a plurality of information servers, comprising:

a routing component that parses transaction requests to locate selected fields and thereafter forwards at least portions of the parsed transaction requests to respective information servers;

a cache that stores a plurality of objects corresponding to transaction requests associated with at least one of the plurality of information servers, the objects comprising field information in at least one of the selected fields located by and received from the routing component;

a digest generator that generates a digest based on the field information in at least one selected field of a corresponding transaction request, the digest corresponding to a location in the cache where at least one object corresponding to the corresponding transaction request is to be stored; and

a cache processor that accesses the plurality of objects in response to communications received from the routing component.

2. The network switch of Claim 1, further comprising a decryption processor that decrypts cipher text transaction requests and provides plain text transaction requests to the routing component.

3. The network switch of Claim 1, further comprising at least one traffic manager located between the network switch and one or more clients and wherein the digest is generated by a hashing function.

4. The network switch of Claim 1, wherein the selected fields include at least a universal resource locator and a cookie.

5. The network switch of Claim 1, wherein the routing component includes a current connection table listing active connections between information servers and clients.

6. The network switch of Claim 1, wherein the plurality of objects in the cache include a plurality of content addresses for specific content and a corresponding hit counter showing a number of instances in a predetermined period of time in which specific content is requested by transaction requests.

7. A method for switching transaction requests among a plurality of information servers, comprising:

receiving a transaction request corresponding to an information server;

parsing one or more selected fields in the transaction request;

5 determining a digest value based on field information in at least one of the selected fields; and

storing selected information corresponding to the transaction request at an address based on the digest value.

8. The method of Claim 7, wherein the transaction request is in hypertext transfer protocol, the digest value is generated by a hashing function, and the field information used to determine the digest value is at least one of a universal resource locator and a cookie.

9. The method of Claim 7, wherein the transaction request is in cipher text and further comprising after the receiving step and before the parsing step:

decrypting the transaction request.

10. The method of Claim 7, wherein storing step comprises:

at least one of incrementing and decrementing a hit counter;

determining if the hit counter at least one of equals or exceeds a predetermined threshold when the hit counter is incremented or at least one of equals or is less than the predetermined threshold when the hit counter is decremented; and

updating a timestamp associated with the stored information.

11. The method of Claim 10, wherein, when the hit counter at least one of equals or exceeds the predetermined threshold, determining a plurality of network addresses associated with content referenced in the transaction request.

12. The method of Claim 10, wherein, when the hit counter at least one of equals or exceeds the predetermined threshold, directing the transaction request to a cache server that is different from an origin server corresponding to the transaction request.

13. The method of Claim 7, further comprising:

determining whether the transaction request is a part of an existing connection between the origin server and a client;

when the transaction request is part of an existing connection, forwarding the transaction request to the corresponding server; and

when the transaction request is not part of an existing connection and a hit counter at least one of equals or exceeds a predetermined value, forwarding the transaction to a cache server different from the corresponding server.

14. The method of Claim 7, further comprising:  
determining whether the transaction request can be served by a cache server; and  
if the transaction request cannot be served by the cache server, forwarding the  
transaction request to the corresponding server.

15. The method of Claim 7, further comprising:  
when a hit counter at least one of equals or exceeds a predetermined threshold,  
transferring content associated with the transaction request from the corresponding server  
to a cache server.

16. A system for switching transaction requests among a plurality of servers, comprising:

an input port for receiving a transaction request requesting information served by an origin server;

5 parsing means for parsing one or more selected fields in the transaction request;

determining means for determining a digest value based on field information in at least one of the selected fields; and

memory means for storing selected information corresponding to the transaction request at an address based on the digest value.

17. The system of Claim 16, wherein the transaction request is in hypertext transfer protocol, the determining means determines the digest value using a hashing function, and the field information used to determine the digest value is at least one of a universal resource locator and a cookie.

18. The system of Claim 16, wherein the transaction request is in cipher text and further comprising between the input port and the parsing means:

decrypting means for decrypting the transaction request.

19. The system of Claim 16, wherein the memory means comprises:

incrementing means for incrementing a hit counter;

second determining means for determining if the hit counter at least one of equals or exceeds a predetermined threshold; and

5 updating means for updating a timestamp associated with the stored information.

20. The system of Claim 19, wherein, when the hit counter at least one of equals or exceeds the predetermined threshold, the system further comprises third determining means for determining a plurality of network addresses associated with content referenced in the transaction request.

21. The system of Claim 19, wherein, when the hit counter at least one of equals or exceeds the predetermined threshold, the system further comprises directing means for directing the transaction request to a cache server that is different from the origin server.

22. The system of Claim 16, further comprising:

second determining means for determining whether the transaction request is a part of an existing connection between the origin server and a client;

5 when the transaction request is part of an existing connection, forwarding means for forwarding the transaction request to the origin server; and

when the transaction request is not part of an existing connection and a hit counter at least one of equals or exceeds a predetermined value, the forwarding means forwards the transaction to a cache server different from the origin server.

23. The system of Claim 16, further comprising:  
second determining means for determining whether the transaction request can be  
served by a cache server; and  
if the transaction request cannot be served by the cache server, forwarding means for  
5 forwarding the transaction request to the origin server.

24. The system of Claim 16, further comprising:  
when a hit counter at least one of equals or exceeds a predetermined threshold,  
transferring means for transferring content associated with the transaction request from the  
origin server to a cache server.



25. A network switch for switching transaction requests among a plurality of servers, comprising:

a cache that stores a plurality of objects corresponding to transaction requests associated with at least one of a plurality of servers, the objects comprising field information in selected fields in the transaction requests;

a digest generator that generates a digest value based on the field information in at least one selected field of a corresponding transaction request, the digest value corresponding to a location in the cache where at least one object corresponding to the transaction request is to be stored; and

a cache processor that accesses the plurality of objects.

26. The network switch of Claim 25, further comprising:

a routing component that parses the transaction requests to locate the selected fields and thereafter forwards at least portions of the parsed transaction requests to respective servers and wherein the cache processor accesses the plurality of objects in response to communications received from the routing component.

27. The network switch of Claim 26, further comprising a security processor that decrypts cipher text transaction requests and provides plain text transaction requests to the routing component.

28. The network switch of Claim 26, further comprising at least one traffic manager located between the network switch and one or more clients and wherein the digest value is generated using a hashing function.

29. The network switch of Claim 26, wherein the selected fields include at least a universal resource locator and a cookie.

30. The network switch of Claim 26, wherein the routing component includes a current connection table listing active connections between servers and clients.

31. The network switch of Claim 26, wherein the plurality of objects in the cache include a plurality of content addresses for specific content and a corresponding hit counter showing a number of instances in a predetermined period of time in which specific content is requested by transaction requests.

32. A method for processing selected information in a network packet, comprising:
- 5 parsing the packet to locate at least one of a universal resource locator and a cookie;
- determining a hash value from at least a portion of the at least one of a universal resource locator and a cookie; and
- storing information associated with the packet at a location corresponding to the hash value.
33. The method of Claim 32, wherein the hash value is based on a hash function.
34. The method of Claim 33, wherein only a portion of the universal resource locator is used in the hash function to determine the hash value.
35. The method of Claim 32, wherein the information is stored in a cache, wherein the information includes a hit counter related to hotness of content corresponding to the universal resource locator, and further comprising:
- determining a server destination for the packet based on the stored information.

36. A system, comprising:

a communications network;

5 a plurality of replicated servers connected to the network, all of the replicated servers having a same network address and all of the replicated servers serving the same replicated information, each of the replicated servers being configured to receive a first transaction request associated with an individual transaction and to provide a response to the first transaction request, the response including a tag that corresponds to the transaction; and

10 a network switch connecting the servers to the network, the network switch being configured to receive all transaction requests addressed to the network address, to select one of the servers to serve the first transaction request, to store the tag that is associated with the transaction in association with a selected server, and to direct to the selected server subsequent received transaction requests including the tag, wherein the network switch stores the tag at a memory location based on a digest value, the digest value being determined at least in part by at least a portion of the tag.

37. The system of Claim 36, wherein the network switch comprises a parser configured to parse the first transaction request and wherein the tag is at least one of a universal resource locator and a cookie.

38. The system of Claim 37, wherein the network switch comprises a decryption processor configured to decrypt the first transaction request before the parser parses the first transaction request.

39. The system of Claim 37, wherein the tag is part of a plurality of stored objects and the plurality of stored objects correspond to the first transaction request and wherein the plurality of stored objects include a hit counter indicating a frequency of transaction requests for content associated with the first transaction request.